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U.S. Nuclear Regulatory Commission
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Southern Nuclear Operating Company
Vogtle Electric Generating Plant Unit 4
ITAAC Closure Notice on Completion of ITAAC 2.2.05.02a [Index Number 253]

Ladies and Gentlemen:

In accordance with 10 CFR 52.99(c)(1), the purpose of this letter is to notify the Nuclear Regulatory Commission (NRC) of the completion of Vogtle Electric Generating Plant (VEGP) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item 2.2.05.02a [Index Number 253]. This ITAAC verifies that the Main Control Room Emergency Habitability System (VES) components listed in the Combined License (COL) Appendix C, Tables 2.2.5-1 and 2.2.5-2 that are identified as American Society of Mechanical Engineers (ASME) Code Section III were designed and constructed in accordance with applicable requirements. The closure process for this ITAAC is based on the guidance described in Nuclear Energy Institute (NEI) 08-01, *Industry Guideline for the ITAAC Closure Process under 10 CFR Part 52*, which was endorsed by the NRC in Regulatory Guide 1.215.

This letter contains no new NRC regulatory commitments. Southern Nuclear Operating Company (SNC) requests NRC staff confirmation of this determination and publication of the required notice in the Federal Register per 10 CFR 52.99.

If there are any questions, please contact Kelli Roberts at 706-848-6991.

Respectfully submitted,



Jamie M. Coleman
Regulatory Affairs Director Vogtle 3 & 4

Enclosure: Vogtle Electric Generating Plant (VEGP) Unit 4
Completion of ITAAC 2.2.05.02a [Index Number 253]

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cc: Regional Administrator, Region II
 Director, Office of Nuclear Reactor Regulation (NRR)
 Director, Vogtle Project Office NRR
 Senior Resident Inspector – Vogtle 3 & 4

**Southern Nuclear Operating Company
ND-23-0384
Enclosure**

**Vogtle Electric Generating Plant (VEGP) Unit 4
Completion of ITAAC 2.2.05.02a [Index Number 253]**

ITAAC Statement

Design Commitment:

- 2.a) The components identified in Table 2.2.5-1 as ASME Code Section III are designed and constructed in accordance with ASME Code Section III requirements.
- 2.b) The piping identified in Table 2.2.5-2 as ASME Code Section III is designed and constructed in accordance with ASME Code Section III requirements.
- 3.a) Pressure boundary welds in components identified in Table 2.2.5-1 as ASME Code Section III meet ASME Code Section III requirements.
- 3.b) Pressure boundary welds in piping identified in Table 2.2.5-2 as ASME Code Section III meet ASME Code Section III requirements.
- 4.a) The components identified in Table 2.2.5-1 as ASME Code Section III retain their pressure boundary integrity at their design pressure.
- 4.b) The piping identified in Table 2.2.5-2 as ASME Code Section III retains its pressure boundary integrity at its design pressure.
- 5.b) Each of the lines identified in Table 2.2.5-2 for which functional capability is required is designed to withstand combined normal and seismic design basis loads without a loss of its functional capability.

Inspections, Tests, Analyses:

Inspection will be conducted of the as-built components and piping as documented in the ASME design reports.

Inspection of the as-built pressure boundary welds will be performed in accordance with the ASME Code Section III.

A pressure test will be performed on the components and piping required by the ASME Code Section III to be pressure tested.

Inspection will be performed for the existence of a report verifying that the as-built piping meets the requirements for functional capability.

Acceptance Criteria:

The ASME Code Section III design reports exist for the as-built components and piping identified in Tables 2.2.5-1 and 2.2.5-2 as ASME Code Section III.

A report exists and concludes that the ASME Code Section III requirements are met for non-destructive examination of pressure boundary welds.

A report exists and concludes that the results of the pressure test of the components and piping identified in Tables 2.2.5-1 and 2.2.5-2 as ASME Code Section III conform with the requirements of the ASME Code Section III.

A report exists and concludes that each of the as-built lines identified in Table 2.2.5-2 for which functional capability is required meets the requirements for functional capability.

ITAAC Determination Basis

This ITAAC requires inspections, tests, and analyses be performed and documented to ensure the Main Control Room Emergency Habitability System (VES) components and piping listed in the Combined License (COL) Appendix C, Table 2.2.5-1 (Attachment A) and Table 2.2.5-2 (Attachment B) that are identified as American Society of Mechanical Engineers (ASME) Code Section III were designed and constructed in accordance with applicable requirements. This ITAAC also verifies the as-built lines identified in Table 2.2.5-2 (Attachment B) are designed to withstand combined normal and seismic design basis loads without a loss of its functional capability.

2.a and 2.b) The ASME Code Section III design reports exist for the as-built components and piping identified in Tables 2.2.5-1 and 2.2.5-2 as ASME Code Section III.

Inspection of each component listed in Table 2.2.5-1 as ASME Code Section III is performed to demonstrate they are designed and constructed in accordance with the VEGP Updated Final Safety Analysis Report (UFSAR) and the ASME Code Section III requirements. The ASME Code Section III certified Design Reports for these components exist and document that the as-built components conform to the approved design details. The ASME Section III Design Report for each component is documented in the component's completed ASME Section III Code Data Report. The individual component ASME Section III Code Data Reports are documented on the ASME Section III N-5 Code Data Report for the applicable piping system (Reference 1).

The as-built piping listed in Table 2.2.5-2 including the components listed in Table 2.2.5-1 as ASME Code Section III, were subjected to a reconciliation process (Reference 2), which verified that the as-built piping was analyzed for applicable loads (e.g. stress reports) and for compliance with all design specification and Code provisions. Design reconciliation of the as-built systems, including installed components, validates that construction completion, including field changes and any nonconforming condition dispositions, were consistent with and bounded by the approved design. All applicable fabrication, installation and testing records, as well as, those for the related Quality Assurance (QA) verification/inspection activities, which confirmed adequate construction in compliance with the ASME Code Section III and design provisions, are referenced in the N-5 Data Report and/or its sub-tier references.

The applicable ASME Section III N-5 Code Data Report, which include the location of the certified Design Reports for all the components listed in Table 2.2.5-1 (Attachment A) and piping listed in Table 2.2.5-2 (Attachment B) as ASME Code Section III, exist and conclude that these installed components were designed and constructed (including their installation within the applicable as-built piping system) in accordance with the ASME Code (1998 Edition, 2000 Addenda and 1989 Edition, 1989 Addenda), Section III requirements as applicable, as described in UFSAR Subsection 5.2.1 (Reference 3). The N-5 Code Data Report (Reference 1) for the piping systems containing the components listed in the Table 2.2.5-1 and Table 2.2.5-2 are identified in Attachments A and B, respectively.

3.a and 3.b) A report exists and concludes that the ASME Code Section III requirements are met for non-destructive examination of pressure boundary welds.

Inspections were performed in accordance with ASME Code Section III (1998 Edition, 2000 Addenda) to demonstrate that as-built pressure boundary welds in components identified in Table 2.2.5-1 as ASME Code Section III meet ASME Code Section III requirements (i.e., no unacceptable indications).

The applicable non-destructive examinations (including liquid penetrant, magnetic particle, radiographic, and ultrasonic testing, as required by ASME Code Section III) of the components' pressure boundary welds were documented in the Non-destructive Examination Report(s), which support completion of the respective ASME Section III N-5 Code Data Report certified by the Authorized Nuclear Inspector (ANI), as listed in Attachment A.

Per ASME Code Section III, Subarticle NCA-8300, "Code Symbol Stamps," the ASME Section III N-5 Code Data Report (Reference 1) documents satisfactory completion of the required examination and testing of the item, which includes non-destructive examinations of pressure boundary welds. Satisfactory completion of the non-destructive examination of pressure boundary welds ensured that the pressure boundary welds in components identified in Table 2.2.5-1 as ASME Code Section III met ASME Code Section III requirements.

An inspection was performed in accordance with Reference 2 to demonstrate that the as-built pressure boundary welds in piping identified in Table 2.2.5-2 (Attachment B) as ASME Code Section III met ASME Code Section III requirements (i.e., no unacceptable indications). This portion of the ITAAC was completed when the piping identified in Table 2.2.5-2, which is encompassed within the respective piping system Code Symbol N-Stamp and the corresponding piping system ASME Section III Code N-5 Data Report (Reference 1), was completed. The non-destructive examinations (including visual inspection, liquid penetrant, magnetic particle, radiographic, and ultrasonic testing, as required by ASME Code Section III) of the piping pressure boundary welds were documented in the Non-destructive Examination Report(s) within the piping system's supporting data package, which support completion of the respective Code Stamping and Code N-5 Data Report.

The completion of stamping the respective piping system along with the corresponding ASME Code N-5 Data Report Forms (certified by the ANI) ensure that the piping was constructed in accordance with the design specifications and the ASME Code Section III, and that the satisfactory completion of the non-destructive examinations of piping pressure boundary welds for the pipe lines identified in Table 2.2.5-2 met ASME Code Section III requirements and were documented in the Non-destructive Examination Report(s) within the supporting data packages.

4.a and 4.b) A report exists and concludes that the results of the pressure test of the components and piping identified in Tables 2.2.5-1 and 2.2.5-2 as ASME Code Section III conform with the requirements of the ASME Code Section III.

Pressure tests were performed by the vendor to demonstrate that the components identified in Table 2.2.5-1 (Attachment A) as ASME Code Section III retain their pressure boundary integrity at their design pressure. The completion of the N-5 Data Reports was governed by Reference 2.

This portion of the ITAAC was complete once each component identified in Table 2.2.5-1 had their individual Code Symbol N-Stamp and corresponding ASME Section III Code Data Report (Reference 1) completed, and the components were installed into the respective Code Symbol N-Stamped piping system and documented on the corresponding ASME Section III N-5 Code Data Report (Reference 1). The pressure testing results of the component's pressure boundary were documented in the Pressure (i.e., hydrostatic) Testing Report(s) within the supporting component's quality data package, which support completion of the respective Code Stamping and Code Data Report.

The completion of stamping the individual components and the respective piping system along with the corresponding ASME Code Data Reports (certified by the ANI) ensures that the components were constructed in accordance with the Design Specifications and the ASME Code Section III and that the satisfactory completion of the pressure testing of each component identified in Table 2.2.5-1 as ASME Code Section III were documented in the Pressure (i.e., hydrostatic) Testing Report(s) within the supporting data packages and met ASME Code Section III requirements.

This ITAAC also verified that the piping identified in Table 2.2.5-2 (Attachment B) fully met all applicable ASME Code, Section III requirements and retains its pressure boundary integrity at its design pressure.

Pressure tests were performed that complied with the ASME Code (1998 Edition, 2000 Addenda), Section III requirements to demonstrate that the ASME Code Section III piping identified in Table 2.2.5-2 retains its pressure boundary integrity at its design pressure.

The pressure tests verified that there were no leaks at welds or piping, and that the pressure boundary integrity was retained at its design pressure. The pressure testing results of the pipe lines are documented in Pressure Testing Reports. The Pressure Testing Reports are documented in the ASME Section III N-5 Code Data Report and support completion of the ASME Section III N-5 Code Data Report for the applicable piping system (i.e., VES) (Reference 1).

The ASME Section III N-5 Code Data Report (Reference 1) identified in Attachments A and B documents that the results of the pressure testing of the components and piping identified in Table 2.2.5-1 and Table 2.2.5-2 respectively conform with the requirements of the Code (1998 Edition, 2000 Addenda), Section III.

5.b) A report exists and concludes that each of the as-built lines identified in Table 2.2.5-2 for which functional capability is required meets the requirements for functional capability.

An inspection was performed of the ASME Section III as-built piping design reports to verify that the report demonstrates that each of the VES piping lines identified in ITAAC Table 2.2.5-2 that requires functional capability was designed to withstand combined normal and seismic design basis loads without a loss of its functional capability. "Functional capability," in this context, refers to the capability of the piping to withstand the effects of earthquakes, without a loss of safety function (to convey fluids from one location to another). Specific functional capability requirements are defined in the VEGP UFSAR Table 3.9-11 (Reference 3).

Piping functional capability is not a specific ASME Code requirement but it is a requirement in the VEGP UFSAR (Reference 3). As such, information demonstrating that UFSAR functional capability requirements were met is included in the ASME Section III As-Built Design Reports for safety class piping prepared in accordance with ASME Section III NCA-3550 under the ASME Boiler & Pressure Vessel Code (1998 Edition, 2000 Addenda) Section III requirements. The as-built piping systems were subjected to a reconciliation process (Reference 2), which verified that the as-built piping systems were analyzed for functional capability and for compliance with the design specification and ASME Code provisions. Design reconciliation of the as-built systems validates that construction completion, including field changes and any nonconforming condition dispositions, was consistent with and bounded by the approved design. As required by ASME Code, the As-Built Design Report (Reference 4) includes the results of physical inspection of the piping and reconciliation to the design pipe stress report.

Inspections of the ASME Code Section III As-Built Piping Design Report (Reference 4) for the VES piping lines identified in Table 2.2.5-2 were completed and concluded that each of the as-built VES piping lines for which functional capability was required meets the requirements for functional capability. The ASME Section III As-Built Piping Design Report (Reference 4) for each of the as-built VES piping lines in Table 2.2.5-2 are identified in Attachment B.

References 1 and 4 provide the evidence that the ITAAC Acceptance Criteria requirements were met:

- The ASME Code Section III design reports exist for the as-built components and piping identified in Tables 2.2.5-1 and 2.2.5-2 as ASME Code Section III;
- A report exists and concludes that the ASME Code Section III requirements were met for non-destructive examination of pressure boundary welds;
- A report exists and concludes that the results of the pressure test of the components and piping identified in Tables 2.2.5-1 and 2.2.5-2 as ASME Code Section III conform with the requirements of the ASME Code Section III; and
- A report exists and concludes that each of the as-built lines identified in Table 2.2.5-2 for which functional capability are required meets the requirements for functional capability.

This ITAAC required no Preservice Inspections (PSI) examinations for the VES per the Unit 4 Preservice Inspection Program Plan (Reference 5).

References 1 and 4 are available for NRC inspection as part of the Unit 4 ITAAC 2.2.05.02a Completion Package (Reference 6).

ITAAC Finding Review

In accordance with plant procedures for ITAAC completion, Southern Nuclear Operating Company (SNC) performed a review of all findings pertaining to the subject ITAAC and associated corrective actions. This review, which included now consolidated ITAAC Indexes 254, 255, 256, 257, 258 and 262, found no relevant ITAAC findings associated with this ITAAC. The ITAAC completion review is documented in the ITAAC Completion Package for ITAAC 2.2.05.02a (Reference 6) and is available for NRC review.

ITAAC Completion Statement

Based on the above information, SNC hereby notifies the NRC that ITAAC 2.2.05.02a was performed for VEGP Unit 4 and that the prescribed acceptance criteria were met.

Systems, structures, and components verified as part of this ITAAC are being maintained in their as designed, ITAAC compliant condition in accordance with approved plant programs and procedures.

References (available for NRC inspection)

1. SV4-VES-MUR-001, Rev. 0, "AP1000 Vogtle Unit 4 ASME Section III System Code Data Report for the Main Control Room Emergency Habitability System (VES)"
2. APP-GW-GAP-139, Rev. 9, "Westinghouse/Stone & Webster ASME Code Data Report As-Built Documentation Interface Procedure"
3. VEGP 3&4 Updated Final Safety Analysis Report, Rev. 11.2, Subsection 5.2.1, "Compliance with Codes and Code Cases" & Table 3.9-11, "Piping Functional Capability – ASME Class 1, 2, and 3"
4. SV4-VES-S3R-001, Rev. 0, "Vogtle Unit 4 Main Control Room Emergency Habitability System (VES) ASME III As-Built Piping System Design Report"
5. SV4-GW-GEI-100, Rev. 1, "AP1000 Preservice Inspection Program Plan for Vogtle Unit 4"
6. 2.2.05.02a-U4-CP-Rev0, ITAAC Completion Package

Attachment A

SYSTEM: Main Control Room Emergency Habitability System (VES)

Equipment Name *	Tag No. *	ASME Code Section III*	ASME III As-Built Design Report	N-5 Report
Air Delivery Alternate Isolation Valve	VES-PL-V001	Yes	SV4-VES-S3R-001	SV4-VES-MUR-001
Eductor Flow Path Isolation Valve	VES-PL-V045	Yes	SV4-VES-S3R-001	SV4-VES-MUR-001
Eductor Bypass Isolation Valve	VES-PL-V046	Yes	SV4-VES-S3R-001	SV4-VES-MUR-001
Pressure Regulating Valve A	VES-PL-V002A	Yes	SV4-VES-S3R-001	SV4-VES-MUR-001
Pressure Regulating Valve B	VES-PL-V002B	Yes	SV4-VES-S3R-001	SV4-VES-MUR-001
MCR Air Delivery Isolation Valve A	VES-PL-V005A	Yes	SV4-VES-S3R-001	SV4-VES-MUR-001
MCR Air Delivery Isolation Valve B	VES-PL-V005B	Yes	SV4-VES-S3R-001	SV4-VES-MUR-001
Temporary Instrument Isolation Valve A	VES-PL-V018	Yes	SV4-VES-S3R-001	SV4-VES-MUR-001
Temporary Instrument Isolation Valve B	VES-PL-V019	Yes	SV4-VES-S3R-001	SV4-VES-MUR-001
MCR Pressure Relief Isolation Valve A	VES-PL-V022A	Yes	SV4-VES-S3R-001	SV4-VES-MUR-001
MCR Pressure Relief Isolation Valve B	VES-PL-V022B	Yes	SV4-VES-S3R-001	SV4-VES-MUR-001
Air Tank Safety Relief Valve A	VES-PL-V040A	Yes	SV4-VES-S3R-001	SV4-VES-MUR-001
Air Tank Safety Relief Valve B	VES-PL-V040B	Yes	SV4-VES-S3R-001	SV4-VES-MUR-001
Air Tank Safety Relief Valve C	VES-PL-V040C	Yes	SV4-VES-S3R-001	SV4-VES-MUR-001
Air Tank Safety Relief Valve D	VES-PL-V040D	Yes	SV4-VES-S3R-001	SV4-VES-MUR-001
Main Air Flow Path Isolation Valve	VES-PL-V044	Yes	SV4-VES-S3R-001	SV4-VES-MUR-001
MCR Air Filtration Line Eductor	VES-PY-N01	Yes	SV4-VES-S3R-001	SV4-VES-MUR-001

*Excerpts from COL Appendix C Table 2.2.5-1

Attachment B

SYSTEM: Main Control Room Emergency Habitability System (VES)

Line Name*	Line Number*	ASME Code Section III*	Functional Capability Required*	ASME III As-Built Design Report	N-5 Report
MCR Relief Line	VES-PL-022A	Yes	Yes	SV4-VES-S3R-001	SV4-VES-MUR-001
MCR Relief Line	VES-PL-022B	Yes	Yes	SV4-VES-S3R-001	SV4-VES-MUR-001

*Excerpts from COL Appendix C, Table 2.2.5-2